This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-11. (Withdrawn)

12. (Currently Amended) A method for generating workflow optimization processes and techniques for use on manufacturing resources of a manufacturing environment comprising the steps of:

receiving a request for the manufacture of a product or product component; and

processing the request by a workflow optimization engine, the workflow optimization engine having at least one instruction set to process data according to predefined manufacturing rules;

generating, by the workflow optimization engine, optimization instructions for use with the manufacturing resources; and

modifying, by the workflow optimization engine, the optimization instructions based upon identifying inefficiencies of the manufacturing resources.

13. (Original) The method as recited in claim 12, wherein the further comprising communicating the processed data to at least one cooperating manufacturing resource.

14. (Original) The method as recited in claim 13, wherein the communicating step comprises establishing communications over a communications network with the manufacturing resource.

15. (Original) The method as recited in claim 14, further comprising retrieving from a cooperating data store data manufacturing rules and heuristics for the manufacturing environment.

16. (Original) The method as recited in claim 15, further comprising receiving data from cooperating additional manufacturing optimization resources comprising any of manual data,

manufacturing control application, and planning systems for processing and to generate the manufacturing instructions.

17. (Original) A computer readable medium having computer readable instructions to instruct a computer to perform the method as recited in claim 12.

18. (Currently Amended) A method to generate workflow optimization instructions for manufacturing resources for a manufacturing flow, the method comprising:

providing a workflow optimization engine, the workflow optimization engine capable of receiving and processing data to generate workflow optimization instructions; and

altering, by the workflow optimization engine, the workflow optimization instructions sent to one or more manufacturing devices based upon inefficiencies of machines in the manufacturing flow.

19. (Original) The method as recited in claim 18 further comprising, providing a data store, the data store cooperating with the workflow optimization engine providing manufacturing rules and manufacturing environment conditions.

20. (Original) The method as recited inc claim 18 further comprising, providing a communications network, the communication network cooperating with the workflow optimization engine to communicate workflow optimization instructions to cooperating manufacturing resources.

21-22. (Withdrawn)